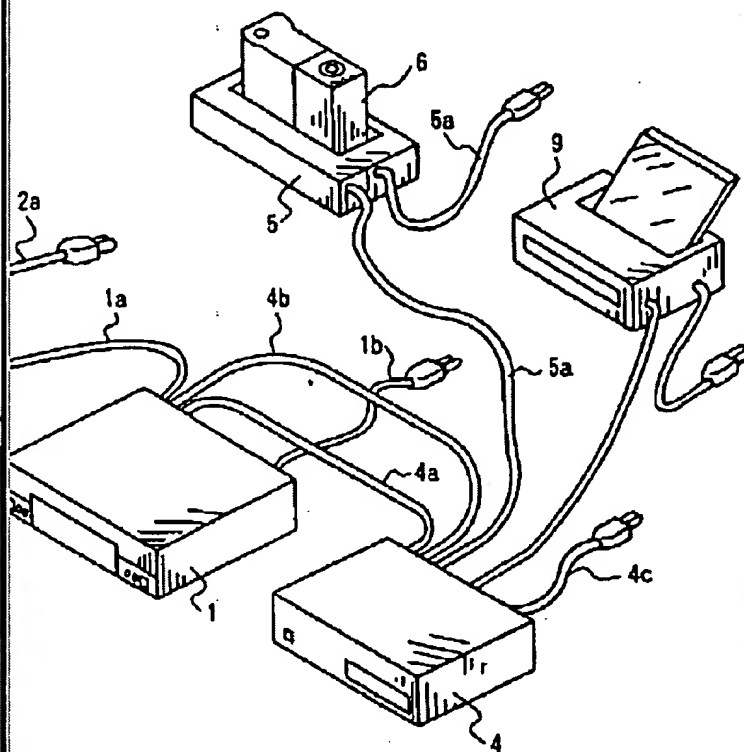


Detail Description Paragraph - DETX (8):

[0070] A docking station 5 has a mounting portion for a digital still camera (hereinafter referred to as a digital camera) 6. The mounting portion is provided with a power supply connector 5f and a signal connector 5d, which are automatically made in contact with corresponding connectors of the digital camera 6 when it is mounted on the mounting portion of the docking station 5. The docking station 5 includes an AC adapter 5e, which is fed with the common power source through a cable 5a and has an output connected to power connector 5f. An IEEE 1394 connector 5c of the docking station 5 is directly connected to the image storage 4. Thus, the docking station 5 is of a simple design consisting of the mounting portion for the digital camera, the signal connector 5d, the IEEE 1394 connector 5c, power connector 5f, and the AC adapter 5e, and is dedicated to the digital camera 6 of a specific type. On the contrary, the image storage 4 is of a common use type interchangeably connected to any docking station dedicated to one of various types of digital cameras by means of standardizing the shape of the connector for a cable 5b.

Detail Description Paragraph - DETX (9):

[0071] In operation, in automatic response to the mounting of the digital camera 6 on the docking station 5, the data transmission is initially triggered to automatically transmit the entire digital image signal in the digital camera to the image storage 4 through the cable 4b. If the completion of the automatic transmission without error is confirmed, all contents of memory in



Details | Text | Image | HTML | KWC

	U	Document ID	Issue Date	
1		US 20030011702 A1	20030116	Adapter for
2		US 20030214602 A1	20031120	Camera doc
3		US 20020071035 A1	20020613	Digital came

Detail Description Paragraph - DETX (8):

[0070] A docking station 5 has a mounting portion for a digital still camera (hereinafter referred to as a digital camera) 6. The mounting portion is provided with a power supply connector 5f and a signal connector 5d, which are automatically made in contact with corresponding connectors of the digital camera 6 when it is mounted on the mounting portion of the docking station 5. The docking station 5 includes an AC adapter 5e, which is fed with the common power source through a cable 5a and has an output connected to power connector 5f. An IEEE 1394 connector 5c of the docking station 5 is directly connected to the image storage 4. Thus, the docking station 5 is of a simple design consisting of the mounting portion for the digital camera, the signal connector 5d, the IEEE 1394 connector 5c, power connector 5f, and the AC adapter 5e, and is dedicated to the digital camera 6 of a specific type. On the contrary, the image storage 4 is of a common use type interchangeably connected to any docking station dedicated to one of various types of digital cameras by means of standardizing the shape of the connector for a cable 5b.

Detail Description Paragraph - DETX (9):

[0071] In operation, in automatic response to the mounting of the digital camera 6 on the docking station 5, the data transmission is initially triggered to automatically transmit the entire digital image signal in the digital camera to the image storage 4 through the cable 4b. If the completion of the automatic transmission without error is confirmed, all contents of memory in

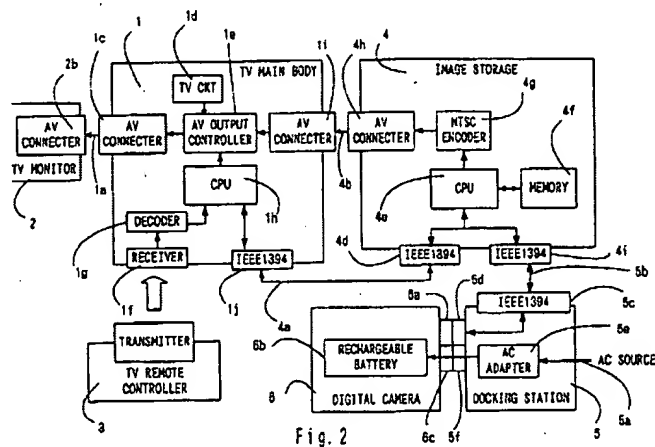


Fig. 2

U	Document ID	Issue Date	
1	US 20030011702 A1	20030116	Adapter for
2	US 20030214602 A1	20031120	Camera doc
3	US 20020071035 A1	20020613	Digital came

Detail Description Paragraph - DETX (8):

[0070] A docking station 5 has a mounting portion for a digital still camera (hereinafter referred to as a digital camera) 6. The mounting portion is provided with a power supply connector 5f and a signal connector 5d, which are automatically made in contact with corresponding connectors of the digital camera 6 when it is mounted on the mounting portion of the docking station 5. The docking station 5 includes an AC adapter 5e, which is fed with the common power source through a cable 5a and has an output connected to power connector 5f. An IEEE 1394 connector 5c of the docking station 5 is directly connected to the image storage 4. Thus, the docking station 5 is of a simple design consisting of the mounting portion for the digital camera, the signal connector 5d, the IEEE 1394 connector 5c, power connector 5f, and the AC adapter 5e, and is dedicated to the digital camera 6 of a specific type. On the contrary, the image storage 4 is of a common use type interchangeably connected to any docking station dedicated to one of various types of digital cameras by means of standardizing the shape of the connector for a cable 5b.

Detail Description Paragraph - DETX (9):

[0071] In operation, in automatic response to the mounting of the digital camera 6 on the docking station 5, the data transmission is initially triggered to automatically transmit the entire digital image signal in the digital camera to the image storage 4 through the cable 4b. If the completion of the automatic transmission without error is confirmed, all contents of memory in

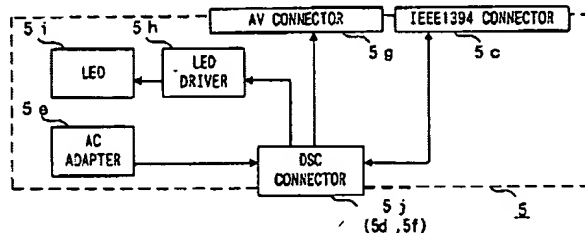


Fig. 4

	U	1	Document ID	Issue Date	
1			US 20030011702 A1	20030116	Adapter for
2			US 20030214602 A1	20031120	Camera doc
3			US 20020071035 A1	20020613	Digital came

PGPUB-DOCUMENT-NUMBER: 20030117499

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030117499 A1

TITLE: Docking station that enables wireless remote control of
a digital image capture device docked therein

PUBLICATION-DATE: June 26, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Bianchi, Mark J.	Fort Collins	CO	US	
Pyle, Norman C.	Greeley	CO	US	

APPL-NO: 10/ 027972

DATE FILED: December 21, 2001

INT-CL: [07]. H04N005/232, H04N005/225

US-CL-PUBLISHED: 348/211.2, 348/373, 348/211.4

US-CL-CURRENT: 348/211.2, 348/211.4, 348/373

Details Text Image HTML FULL

	U	1	Document ID	Issue Date	
4			US 6572282 B1	20030603	Digital camera stand with indexed tilt
5			US 20020186319 A1	20021212	Docking station assembly for transmi
6			US 20030117499 A1	20030626	Docking station that enables wireless capture device docked therein
7			US 6181883 B1	20010130	Dual purpose camera for VSC with c capture modules



US 20030117499A1

(19) United States

(12) Patent Application Publication

Blanchi et al.

(10) Pub. No.: US 2003/0117499 A1

(45) Pub. Date: Jun. 26, 2003

(34) DOCKING STATION THAT ENABLES WIRELESS REMOTE CONTROL OF A DIGITAL IMAGE CAPTURE DEVICE DOCKED THEREIN

(75) Inventors: Mark J. Bianchi, Fort Collins, CO
(US); Norman C. Pyle, Greeley, CO
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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400 (US)

(21) Appl. No.: 10/027,972

(22) Filed: Dec. 21, 2001

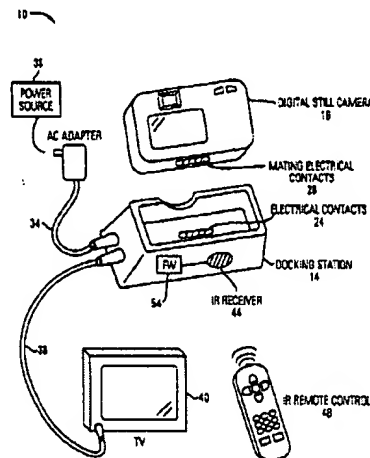
Publication Classification

(51) Int. Cl.⁷ H04N 5/232; H04N 5/225
(51) U.S. Cl. 348/211.2; 348/373; 348/211.4

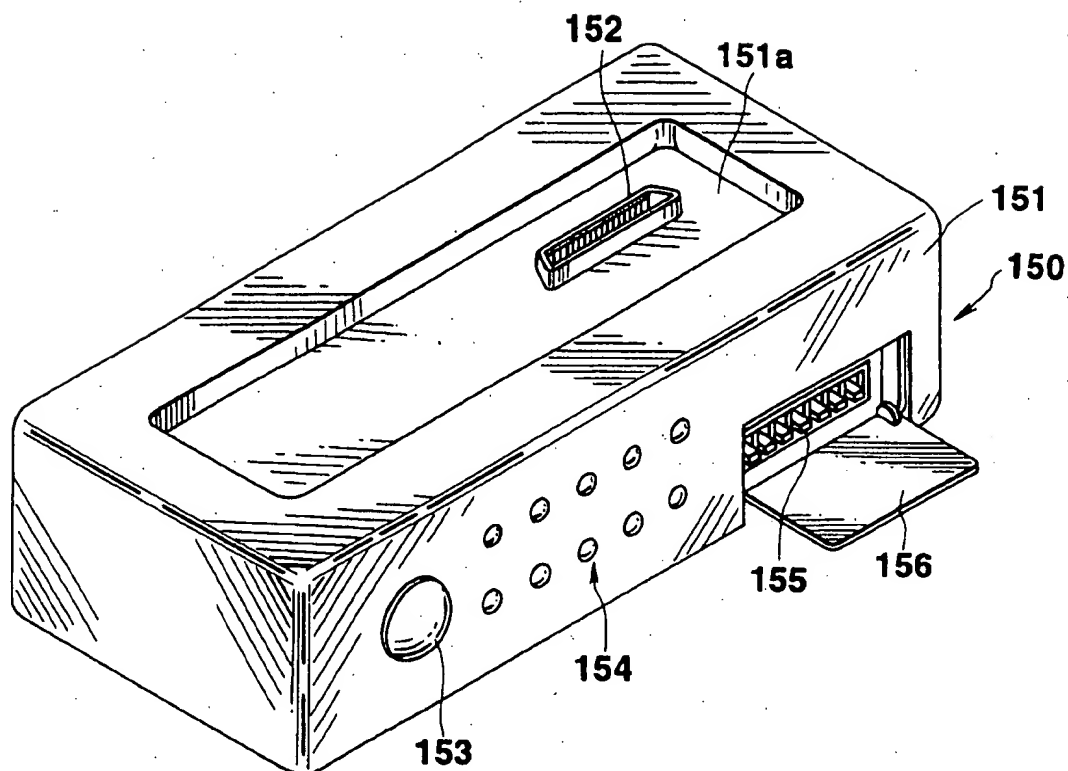
(57)

ABSTRACT

A system and method for allowing a user to control remotely a digital image capture device without wires. A docking station for receiving a digital image capture device is provided. The docking station includes a wireless receiver. A wireless remote controller for sending at least one command to the docking station is also provided. The docking station also has a communication interface for communicating with the digital image capture device when the image capture device is docked therein. The user employs the wireless remote controller to access one or more functions of the digital image capture device through the docking station.



Brian Green Co

**FIG. 3**

United States Patent [19]

Katoh et al.

[11] Patent Number: 4,746,990

[45] Date of Patent: May 24, 1988

[54] DETACHABLE UNIT ELECTRONIC CAMERA

[75] Inventors: Akira Katoh; Masatoshi Ida, both of Hachioji; Yutaka Yunoki, Kunitachi; Hisayuki Harada, Hachioji; Manabu Inoue, Kokubunji; Yoshio Fukuda, Hino, all of Japan

[73] Assignee: Olympus Optical Co., Ltd., Tokyo, Japan

[21] Appl. No.: 797,025

[22] Filed: Nov. 12, 1985

[51] Int. Cl.⁴ H04N 9/79; H04N 5/781

[52] U.S. Cl. 358/310; 358/906

[58] Field of Search 360/33.1, 35.1; 358/310, 335, 906, 909

[56] References Cited

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4,599,657	7/1986	Kinoshita et al.	358/335
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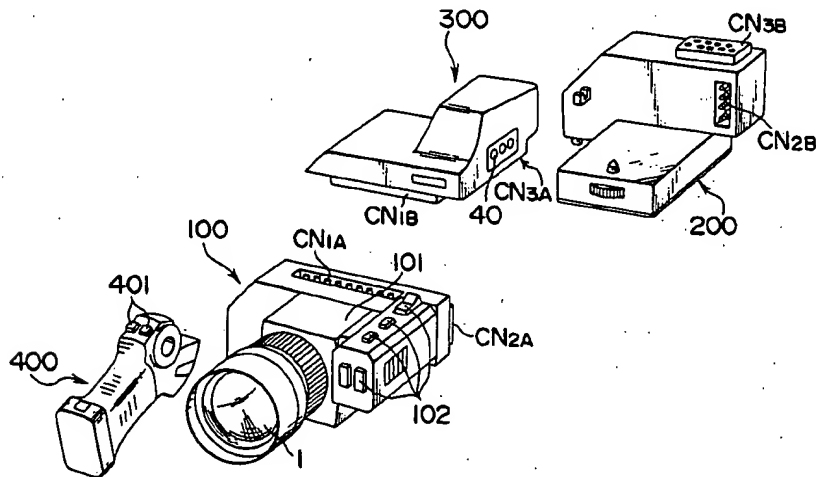
24744	3/1981	European Pat. Off.
58-182964	4/1982	Japan
57-171758	8/1982	Japan
58-139571	8/1983	Japan

Primary Examiner—Donald McElheny, Jr.
Attorney, Agent, or Firm—Louis Weinstein

[57] ABSTRACT

A detachable unit electronic camera includes three detachable units, namely, a photographing unit, a record/playback unit and a picture monitor unit. The photographing unit has the function to convert an output signal from a camera into a luminance signal and color difference signals. The record/playback unit has the function of magnetically recording an output signal from the photographing unit on a magnetic disc and also the function of reading a signal which is previously recorded on the magnetic disc. The picture monitor unit has the function of displaying a picture in response to an output signal from the photographing unit or a signal which is reproduced from the record/playback unit.

21 Claims, 20 Drawing Sheets





US005260795A

United States Patent [19]

Sakai et al.

[11] Patent Number: 5,260,795

[45] Date of Patent: Nov. 9, 1993

[54] ELECTRONIC STILL CAMERA HAVING
REMOTE CONTROL DEVICE[75] Inventors: Nobuya Sakai, Alberta, Canada;
Harumi Aoki, Tokyo, Japan[73] Assignee: Asahi Kogaku Kogyo Kabushiki
Kaisha, Tokyo, Japan

[21] Appl. No.: 881,062

[22] Filed: May 11, 1992

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Nos. 58-33369, 1-115276, and 58-182964.
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Assistant Examiner—Glenton B. Burgess
Attorney, Agent, or Firm—Sandler Greenblum &
Bernstein

Related U.S. Application Data

[63] Continuation of Ser. No. 471,937, Jan. 29, 1990.

[30] Foreign Application Priority Data

Feb. 1, 1989 [JP] Japan 1-23142

[51] Int. Cl.³ H04N 5/76; H04N 5/781;
H04N 5/26[52] U.S. Cl. 358/209; 358/906;
358/341[58] Field of Search 358/209, 210, 906, 909,
358/342, 229, 341; 360/32, 33.1, 10.1, 5, 35.1

[56] References Cited

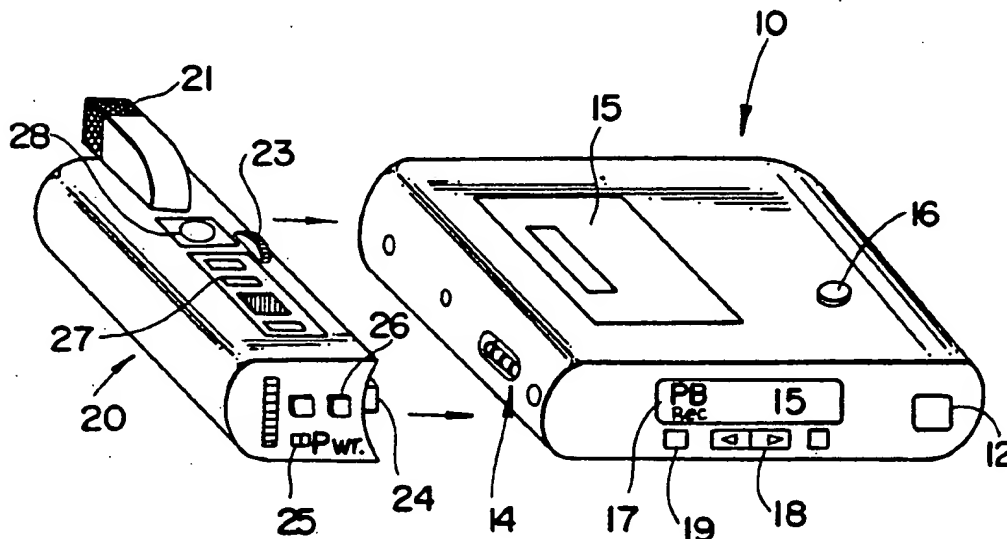
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4,823,199 4/1989 Sakakibara et al. 358/335
4,858,031 8/1989 Fukuta .

[57] ABSTRACT

An electronic still camera includes a camera body which has recording device for recording electrical picture signals from an image pickup device and electrical so-and signals received by a sound receiver onto a recording medium, and an adaptor detachably mounted to the camera body. The adaptor has a sound memory for temporarily memorizing the sounds for a predetermined period of time to output the same to the camera body, and a remote controller for outputting a remote control signal for remotely controlling the operation of the camera body. The camera body has a control unit for controlling the operation of the camera in accordance with the remote control signal from the remote controller.

25 Claims, 3 Drawing Sheets





US005815205A

United States Patent [19]

Hashimoto et al.

[11] **Patent Number:** 5,815,205[45] **Date of Patent:** Sep. 29, 1998[54] **EXTERNAL COMMUNICATION INTERFACE FOR A DIGITAL CAMERA**[75] Inventors: **Tetsuya Hashimoto, Ichikawa; Hiroki Fukuoka; Takashi Ohkuma**, both of Yokohama, all of Japan[73] Assignee: **Ricoh Company, Ltd.**, Tokyo, Japan[21] Appl. No.: **603,551**[22] Filed: **Feb. 21, 1996**[30] **Foreign Application Priority Data**

Feb. 21, 1995	[JP]	Japan	7-032589
Feb. 21, 1995	[JP]	Japan	7-032595
Feb. 28, 1995	[JP]	Japan	7-040136
Feb. 28, 1995	[JP]	Japan	7-040139
Aug. 17, 1995	[JP]	Japan	7-209724

[51] Int. Cl.⁶ **H04N 5/225**[52] U.S. Cl. **348/373; 348/552; 439/638**[58] Field of Search **348/231, 373, 348/375, 376, 552; 439/353, 357, 372, 638, 914, 953**[56] **References Cited****U.S. PATENT DOCUMENTS**

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Primary Examiner—Andrew I. Faile*Assistant Examiner*—Christopher Onuaku*Attorney, Agent, or Firm*—Oblon, Spivak, McClelland, Maier & Neustadt, P.C.

[57]

ABSTRACT

An electronic camera which detachably connects to a communication interface which allows the camera to communicate with an electronic device such as a personal computer. The communication interface includes circuitry which converts signals utilized by a microprocessor within the camera which are usually within a range of 0 to +5 volts to a level which is utilized to communicate with the computer. When an RS-232 connection is used to communicate between the camera and the computer, the circuitry within the communication interface converts the signals utilized by the camera to a level between -15 and -5 volts for a low signal and +5 and +15 volts for a high signal. The communication interface includes a mechanical connector having two latching mechanisms which connect to receiving members of the camera. The latching mechanisms pivot and are both moved by a single pushing member. The latching mechanisms are constructed as three level elements where the first level includes the latching member, the second level aligns with a level of a frame for supporting the latching mechanism, and the third level includes a surface against which the pushing member pushes.

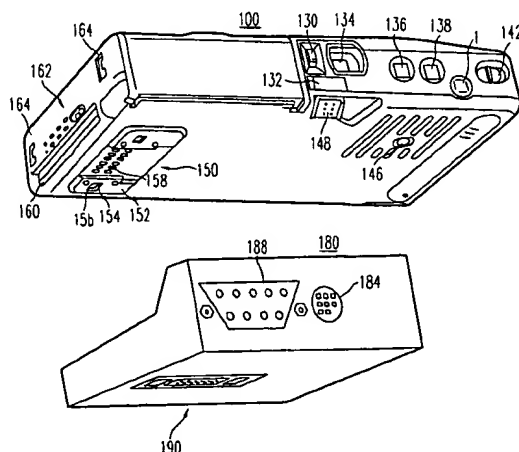
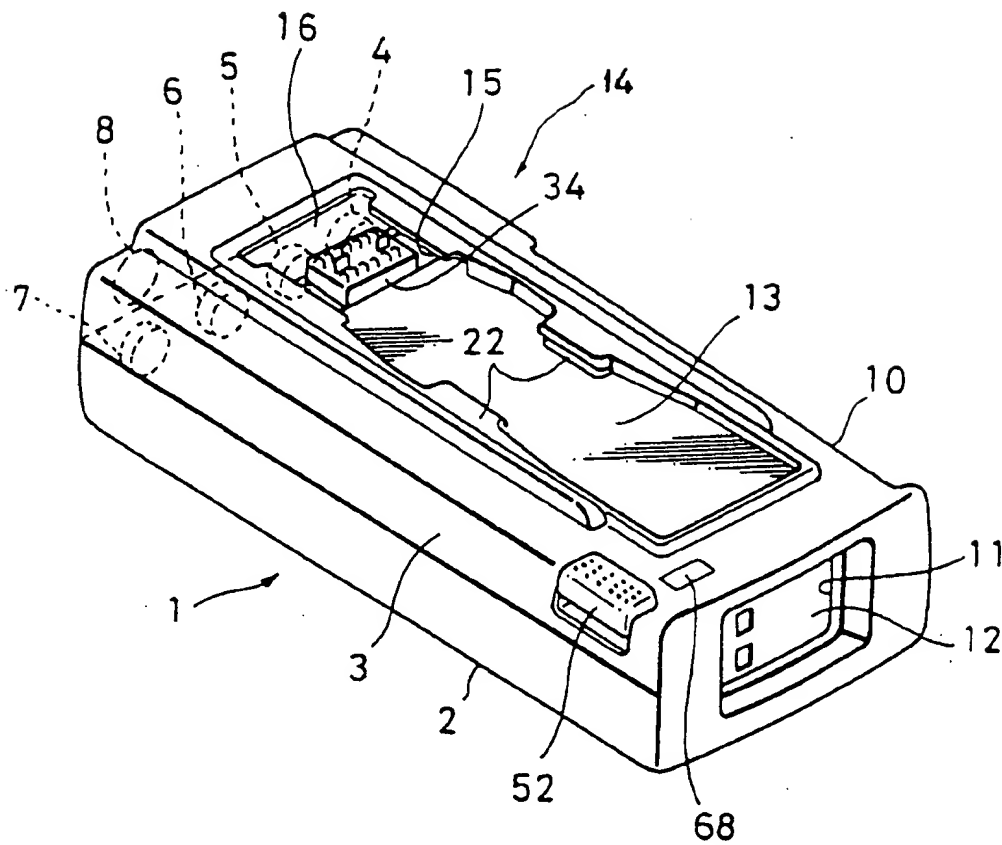
24 Claims, 14 Drawing Sheets

FIG. 5





US005170262A

United States Patent [19]

Kinoshita et al.

[11] Patent Number: **5,170,262**[45] Date of Patent: **Dec. 8, 1992**[54] **ELECTRONIC CAMERA**[75] Inventors: **Takao Kinoshita; Yoshiyuki Takishima**, both of Kawasaki, Japan[73] Assignee: **Canon Kabushiki Kaisha**, Tokyo, Japan[21] Appl. No.: **653,998**[22] Filed: **Feb. 13, 1991**

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Related U.S. Application Data

[63] Continuation of Ser. No. 377,797, Jul. 10, 1989, abandoned, which is a continuation of Ser. No. 53,395, filed as PCT/JP86/00478, Sep. 13, 1986, abandoned.

[30] **Foreign Application Priority Data**

Sep. 13, 1985 [JP] Japan 60-201744

[51] Int. Cl.³ **H04N 5/76**[52] U.S. Cl. **358/335; 358/906**[58] Field of Search **360/33.1, 35.1; 358/335, 906, 909**[56] **References Cited****U.S. PATENT DOCUMENTS**

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4,599,657	7/1986	Kinoshita et al.	358/906
4,604,668	8/1986	Lemelson	

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Japanese Article, pp. 19-23, Nov. 1983.

Primary Examiner—Donald McElheny, Jr.
Attorney, Agent, or Firm—Fitzpatrick, Cella, Harper & Scinto[57] **ABSTRACT**

An electronic camera electronically records an optical image by using a non solid-state memory and includes an image pickup element, an image pickup section, and an external recording section. The image pickup section includes a solid-state memory means for digital-recording at least one-frame image signals supplied from the image pickup element. The external recording section includes a non solid-state memory means, and a D/A converter for analog-recording a digital image signal supplied from the image pickup section on the non solid-state memory means. The image pickup section and the external recording section are detachable.

14 Claims, 9 Drawing Sheets